IMB-170
IMB-170-V

User Manual

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This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

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The Lithium battery adopted on this motherboard contains Perchlorate, a toxic substance controlled in Perchlorate Best Management Practices (BMP) regulations passed by the California Legislature. When you discard the Lithium battery in California, USA, please follow the related regulations in advance.
"Perchlorate Material-special handling may apply, see
www.dtsc.ca.gov/hazardouswaste/perchlorate"

ASRock Website: http://www.asrock.com

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1. Introduction

Thank you for purchasing ASRock ***IMB-170*** motherboard, a reliable motherboard produced under ASRock's consistently stringent quality control. It delivers excellent performance with robust design conforming to ASRock's commitment to quality and endurance.

In this manual, chapter 1 and 2 contains the introduction of the motherboard and step-by-step hardware installation guide. Chapter 3 contains the configuration guide of BIOS setup.

Because the motherboard specifications and the BIOS software might be updated, the content of this manual will be subject to change without notice. In case any modifications of this manual occur, the updated version will be available on ASRock's website without further notice. You may find the latest VGA cards and CPU support list on ASRock's website as well. ASRock website http://www.asrock.com

If you require technical support related to this motherboard, please visit our website for specific information about the model you are using.

www.asrock.com/support/index.asp

1.1 Package Contents

ASRock ***IMB-170*** Motherboard

(Mini-ITX Form Factor: 6.7-in x 6.7-in, 17.0 cm x 17.0 cm)

ASRock **IMB-110** Jumper Setting Instruction

ASRock ***IMB-170*** Support CD

2 x Serial ATA (SATA) Data Cables (Optional)

1 x SATA Power Cable

2 x COM Port Cable

1 x I/O Panel Shield

1.2 Specifications

Platform	- Mini ITX Form Factor: 6.7-in x 6.7-in, 17.0 cm x 17.0 cm - All Solid Capacitor design (100% Japan-made high quality Conductive Polymer Capacitors)
CPU	- Socket G2(rPGA988B) for Intel® Core i7/i5/i3 Celeron
Chipset	- Intel® QM77 - Intel® Active Management Technology 8.0 - Supports Intel® Rapid Start Technology and Smart Connect Technology
Memory	- Dual Channel DDR3 Memory Technology - 2 x DDR3 SO-DIMM slots - Supports DDR3 1600(OC)/1333/1066 non-ECC, un-buffered memory - Max. capacity of system memory: 16GB (see **CAUTION 1**)
Expansion Slot	- 1 x PCI Express 2.0 x16 slot - 1 x Mini-PCIe slot
Graphics	- Intel® HD Graphics - Four VGA Output options: DisplayPort, DVI-I (D-Sub Port for IMB-170-V), LVDS and HDMI (see **CAUTION 2**) - Supports D-Sub with max. resolution up to 2048x1536 @ 75Hz - Supports DisplayPort with max. resolution up to 2560x1600 @ 60Hz - Supports DVI-I with max. resolution up to 1920x1200 @ 75Hz - Supports LVDS with max. resolution up to 1920x1200 @ 60Hz (Optional) - Supports HDMI 1.4a Technology with max. resolution up to 1920x1200 @ 60Hz
Audio	- 5.1 CH HD Audio (Realtek ALC887 Audio Codec)
LAN	- 2 x PCIE x1 Gigabit LAN 10/100/1000 Mb/s - Intel® 82579V/LM - Intel® 82583V
Rear Panel I/O	- 1 x PS/2 Mouse/Keyboard Port

	- 2 x Serial Port: COM1 - 1 x DisplayPort - 1 x DVI-I Port (D-Sub Port for IMB-170-V) - 1 x HDMI Port - 4 x Ready-to-Use USB 2.0 Ports - 2 x Ready-to-Use USB 3.0 Ports - 2 x RJ-45 LAN Ports with LED (ACT/LINK LED and SPEED LED) - HD Audio Jack: Line in/Front Speaker/Microphone
Storage	- 2 x SATA3 6.0 Gb/s connectors, support RAID (RAID 0, RAID 1, RAID 5, RAID 10, Intel Rapid Storage and Intel Smart Response Technology), NCQ, AHCI and Hot Plug - 2 x SATA2 3.0 Gb/s connectors, support RAID (RAID 0, RAID 1, RAID 5, RAID 10, Intel Rapid Storage and Intel Smart Response Technology), NCQ, AHCI and Hot Plug
USB3.0	- 2 x Rear USB 3.0 ports, support USB 1.0/2.0/3.0 up to 5Gb/s - 1 x Front USB 3.0 header (supports 2 USB 3.0 ports), supports USB 1.0/2.0/3.0 up to 5Gb/s
Connectors	- 1 x LVDS header - 1 x Inverter Power control Wafer - 1 x Backlight Control - 1 x Printer Port Header - 1 x Digital Input / Output Pin Header - 4 x COM Port Headers - 1 x LPC Debug Header - 1 x CPU Fan connector (3-pin) - 1 x Chassis Fan connector (4-pin) - 4 pin Power connector - 1 x SATA Power Connector - Front panel audio connector - 2 x USB 2.0 headers (support 4 USB 2.0 ports) - 1 x USB 3.0 header (supports 2 USB 3.0 ports)
BIOS Feature	- 16Mb AMI UEFI Legal BIOS with GUI support - Supports “Plug and Play”

	- ACPI 1.1 Compliance Wake Up Events - Supports jumperfree - SMBIOS 2.3.1 Support
Support CD	- Drivers
Hardware Monitor	- CPU/Chassis Temperature Sensing - CPU/Chassis Fan Tachometer - CPU/Chassis Quiet Fan - CPU/Chassis Fan Multi-Speed Control - Voltage Monitoring: +12V, +5V, +3.3V, CPU Vcore
OS	- Microsoft® Windows® 7 / 7 64-bit / Vista™ / Vista™ 64-bit / XP / XP 64-bit / Linux compliant
Certifications	- FCC, CE, WHQL - ErP/EuP Ready (ErP/EuP ready power supply is required)

* For detailed product information, please visit our website: http://www.asrock.com

WARNING

Please realize that there is a certain risk involved with overclocking, including adjusting the setting in the BIOS, applying Untied Overclocking Technology, or using third-party overclocking tools. Overclocking may affect your system's stability, or even cause damage to the components and devices of your system. It should be done at your own risk and expense. We are not responsible for possible damage caused by overclocking.

CAUTION!

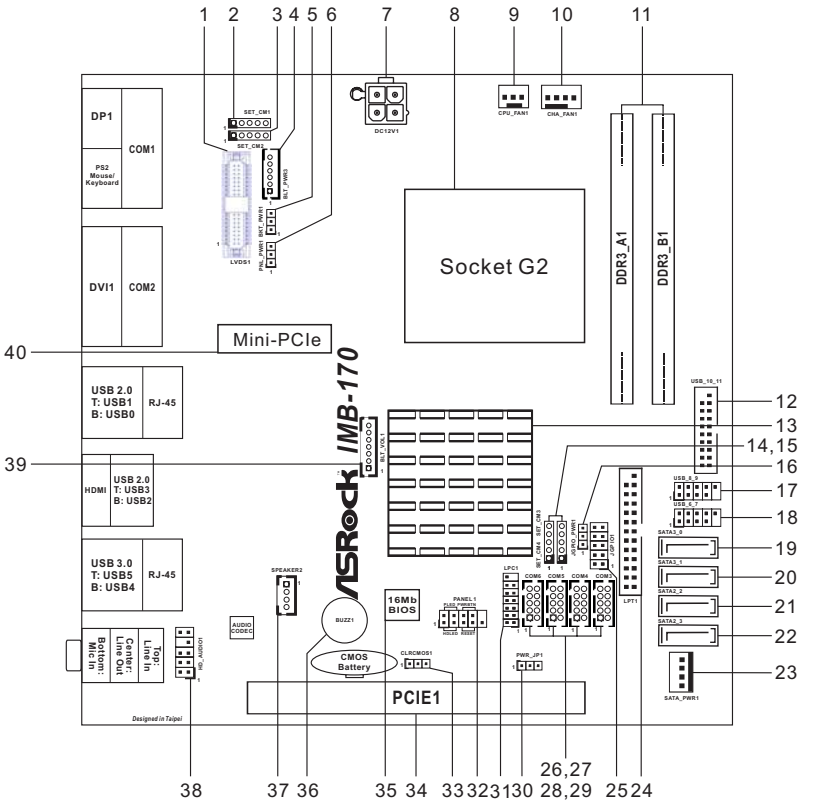
1. Due to the operating system limitation, the actual memory size may be less than 4GB for the reservation for system usage under Windows® 7 / Vista™ / XP. For Windows® 64-bit OS with 64-bit CPU, there is no such limitation. You can use ASRock XFast RAM to utilize the memory that Windows® cannot use.
2. You can choose to use two of the four monitors only. DisplayPort, DVI-I, LVDS and HDMI monitors cannot be enabled at the same time. Besides, with the DVI-to-HDMI adapter, the DVI port can support the same features as the HDMI port. (D-Sub Port for IMB-170-V)

1.3 Unique Features

ASRock Instant Flash

ASRock Instant Flash is a BIOS flash utility embedded in Flash ROM. This convenient BIOS update tool allows you to update system BIOS without entering operating systems first like MS-DOS or Windows®. With this utility, you can press the <F6> key during the POST or the <F2> key to enter into the BIOS setup menu to access ASRock Instant Flash. Just launch this tool and save the new BIOS file to your USB flash drive, floppy disk or hard drive, then you can update your BIOS only in a few clicks without preparing an additional floppy diskette or other complicated flash utility. Please be noted that the USB flash drive or hard drive must use FAT32/16/12 file system.

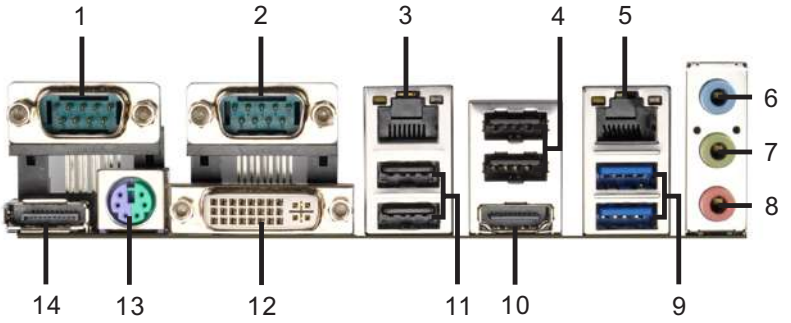
1.4 Motherboard Layout



1 LVDS Panel Connector (LVDS1)
2 COM Port Signal/Power Setting Jumpers (SET_CM1)
3 COM Port Signal/Power Setting Jumpers (SET_CM2)
4 Inverter Power control Wafer (BLT_PWR3)
5 Backlight Power Selection (BKT_PWR1)
6 Panel Power Selection (PNL_PWR1)
7 4-Pin Power Connector (DC12V1)
8 Socket G2 CPU
9 CPU Fan Connector (CPU_FAN1)
10 Chassis Fan Connector (CHA_FAN1)
11 2 x 204-pin DDR3 SO-DIMM Slots (DDR3_A1, DDR3_B1)

12 USB 3.0 Header (USB_10_11)
13 Intel QM77 Chipset
14 COM Port Signal/Power Setting Jumpers (SET_CM4)
15 COM Port Signal/Power Setting Jumpers (SET_CM3)
16 Digital I/O Power Jumper (JGPIO_PWR1)
17 USB 2.0 Header (USB_8_9)
18 USB 2.0 Header (USB_6_7)
19 SATA3 Connector (SATA3_0, White)
20 SATA3 Connector (SATA3_1, White)
21 SATA2 Connector (SATA2_2, Blue)
22 SATA2 Connector (SATA2_3, Blue)
23 SATA Power Connector (SATA_PWR1)
24 Printer Port Header (LPT1)
25 Digital I/O Header (JGPIO1)
26 COM Port Header (COM3)
27 COM Port Header (COM4)
28 COM Port Header (COM5)
29 COM Port Header (COM6)
30 ATX/AT Mode Jumper (PWR_JP1)
31 LPC Debug Header (LPC1)
32 System Panel Header (PANEL1)
33 Clear CMOS Jumper (CLRCMOS1)
34 PCI Express 2.0 x16 Slot (PCIE1)
35 SPI Flash Memory (16Mb)
36 Buzzer (BUZZ1)
37 3W Audio AMP Output Wafer Header (SPEAKER1)
38 Front Panel Audio Header (HD_AUDIO1)
39 Backlight & Amp Volume Control (BLT_VOL1)
40 Mini PCI Express Slot (PCIE2)

1.5 I/O Panel



1 COM Port (COM1)*
2 COM Port (COM2)*
3 LAN RJ-45 Port**
4 USB 2.0 Ports (USB23)
5 LAN RJ-45 Port**
6 Line in (Blue)
7 Line out (Green)
8 Microphone (Pink)
9 USB 3.0 Ports (USB45)
10 HDMI Port
11 USB 2.0 Ports (USB01)
12 DVI-I Port (D-Sub Port for IMB-170-V)
13 PS/2 Mouse/Keyboard Port
14 DisplayPort

* This motherboard supports RS232/422/485 on COM1, 2 ports. Please refer to below table for the pin definition. In addition, COM1, 2 ports (RS232/422/485) can be adjusted in BIOS setup utility > Advanced Screen > Super IO Configuration. You may refer to page 51 for details.

COM1~2 Port Pin Definition

PIN	RS232	RS422	RS485
1	DCD	TX-	RTX-
2	RXD	RX+	N/A
3	TXD	TX+	RTX+
4	DTR	RX-	N/A
5	GND	GND	GND
6	DSR	N/A	N/A
7	RTS	N/A	N/A
8	CTS	N/A	N/A
9	+5V/+12V/RI#	+5V/+12V/RI#	+5V/+12V/RI#

** There are two LED next to the LAN port. Please refer to the table below for the LAN port LED indications.

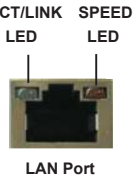
LAN Port LED Indications

Activity/Link LED

Status	Description
Off	No Link
Blinking	Data Activity
On	Link

SPEED LED

Status	Description
Off	10Mbps connection
Orange	100Mbps connection
Green	1Gbps connection



Chapter 2: Installation

This is a mini ITX form factor motherboard. Before you install the motherboard, study the configuration of your chassis to ensure that the motherboard fits into it.

Pre-installation Precautions

Take note of the following precautions before you install motherboard components or change any motherboard settings.

1. Make sure to unplug the power cord before installing or removing the motherboard. Failure to do so may cause physical injuries to you and damages to motherboard components.
2. In order to avoid damage from static electricity to the motherboard's components, NEVER place your motherboard directly on a carpet. Also remember to use a grounded wrist strap or touch a safety grounded object before you handle the components.
3. Hold components by the edges and do not touch the ICs.
4. Whenever you uninstall any components, place them on a grounded anti-static pad or in the bag that comes with the components.
5. When placing screws to secure the motherboard to the chassis, please do not over-tighten the screws! Doing so may damage the motherboard.

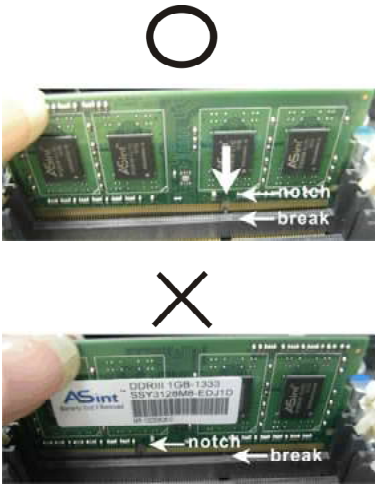
2.1 Installation of Memory Modules (DIMM)

This motherboard provides two 204-pin DDR3 (Double Data Rate 3) SO-DIMM slots, and supports Dual Channel Memory Technology. For dual channel configuration, you always need to install **identical** (the same brand, speed, size and chip-type) DDR3 DIMM pairs.

1. It is unable to activate Dual Channel Memory Technology with only one memory module installed.
2. It is not allowed to install a DDR or DDR2 memory module into a DDR3 slot; otherwise, this motherboard and DIMM may be damaged.

Step 1. Unlock a DIMM slot by pressing the retaining clips outward.

Step 2. Align a DIMM on the slot such that the notch on the DIMM matches the break on the slot.



The DIMM only fits in one correct orientation. It will cause permanent damage to the motherboard and the DIMM if you force the DIMM into the slot at incorrect orientation.

Step 3. Firmly insert the DIMM into the slot until the retaining clips at both ends fully snap back in place and the DIMM is properly seated.

2.2 Expansion Slots (PCI and PCI Express Slots)

There are 2 PCI Express slots on this motherboard.

PCIE Slots: PCIE1 (PCIE x16 slot) is used for PCI Express x16 lane width graphics cards.

Mini-PCIE Slots: PCIE2 is used for mini-PCIE cards.

Installing an expansion card

Step 1. Before installing the expansion card, please make sure that the power supply is switched off and the power cord is unplugged. Please read the documentation of the expansion card and make necessary hardware settings for the card before you start the installation.

Step 2. Remove the system unit cover (if your motherboard is already installed in a chassis).

Step 3. Remove the bracket facing the slot that you intend to use. Keep the screws for later use.

Step 4. Align the card connector with the slot and press firmly until the card is completely seated on the slot.

Step 5. Fasten the card to the chassis with screws.

Step 6. Replace the system cover.

2.3 Serial SATA / SATA2 / SATA3 Hard Disk Installation

This motherboard adopts Intel® QM77 chipset that supports SATA / SATA2 / SATA3 hard disks and RAID 0, RAID 1, RAID 5, RAID 10, Intel Rapid Storage and Intel Smart Response Technology.

STEP 1: Connect the SATA power cable to the hard disk.

STEP 2: Connect one end of the SATA data cable to the hard disk.

STEP 3: Connect the other end of the SATA data cable to the motherboard's SATA2 / SATA3 connectors.

Serial ATA2 Connectors
(SATA2_2:
see p.11, No. 21)
(SATA2_3:
see p.11, No. 22)

SATA2_2

SATA2_3

These two Serial ATA2 (SATA2) connectors support SATA data cables for internal storage devices. The current SATA2 interface allows up to 3.0 Gb/s data transfer rate.

Serial ATA3 Connector
(SATA3_0:
see p.11, No. 19)
(SATA3_1:
see p.11, No. 20)

SATA3_0

SATA3_1

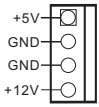
These two Serial ATA3 (SATA3) connector supports SATA data cables for internal storage devices. The current SATA3 interface allows up to 6.0 Gb/s data transfer rate.

2.4 Power Connectors

Please plug a power cable to the power connector.

4-Pin Power Connector
(4-pin DC12V1)
(see p.11, No. 7)

SATA Power Connector
(3-pin CPU_FAN1)
(see p.11, No. 23)



Please connect the SATA Power cable to this connector.

2.5 System Panel Installation

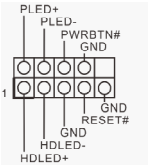
Connect the power switch, reset switch and system status indicator on the chassis to this header according to the pin assignments below. Note the positive and negative pins before connecting the cables.

PWRBTN (Power Switch):
Connect to the power switch on the chassis front panel. You may configure the way to turn off your system using the power switch.
RESET (Reset Switch):
Connect to the reset switch on the chassis front panel. Press the reset switch to restart the computer if the computer freezes and fails to perform a normal restart.
PLED (System Power LED):
Connect to the power status indicator on the chassis front panel. The LED is on when the system is operating. The LED keeps blinking when the system is in S1/S3 sleep state. The LED is off when the system is in S4 sleep state or powered off (S5).
HDLED (Hard Drive Activity LED):
Connect to the hard drive activity LED on the chassis front panel. The LED is on when the hard drive is reading or writing data.

The front panel design may differ by chassis. A front panel module mainly consists of power switch, reset switch, power LED, hard drive activity LED, speaker and etc. When connecting your chassis front panel module to this header, make sure the wire assignments and the pin assignments are matched correctly.

The white wires are negative (Connect to - or GND pins), while the colored ones are positive.

System Panel Header
(9-pin PANEL1)
(see p.11, No. 32)

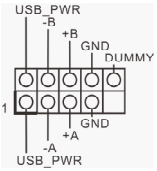


2.6 Onboard Headers and Connectors

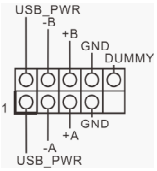
Onboard headers and connectors are NOT jumpers. Do NOT place jumper caps over these headers and connectors. Placing jumper caps over the headers and connectors will cause permanent damage to the motherboard!

USB 2.0 Headers

(9-pin USB8_9)
(see p.11, No. 17)



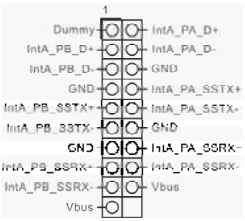
(9-pin USB6_7)
(see p.11, No. 18)



Besides four default USB 2.0 ports on the I/O panel, there are two USB 2.0 headers on this motherboard. Each USB 2.0 header can support two USB 2.0 ports.

USB 3.0 Header

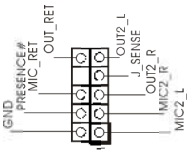
(19-pin USB_10_11)
(see p.11, No. 12)



Besides two default USB 3.0 ports on the I/O panel, there is one USB 3.0 header on this motherboard. The USB 3.0 header can support two USB 2.0 ports.

Front Panel Audio Header

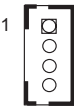
(9-pin HD_AUDIO1)
(see p.11, No. 38)



This is an interface for the front panel audio cable that allows convenient connection and control of audio devices.

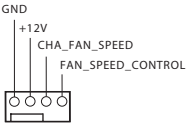
1. High Definition Audio supports Jack Sensing, but the panel wire on the chassis must support HDA to function correctly. Please follow the instructions in our manual and chassis manual to install your system.
2. If you use an AC'97 audio panel, please install it to the front panel audio header by the steps below:
   A. Connect Mic_IN (MIC) to MIC2_L.
   B. Connect Audio_R (RIN) to OUT2_R and Audio_L (LIN) to OUT2_L.
   C. Connect Ground (GND) to Ground (GND).
   D. MIC_RET and OUT_RET are for HD audio panel only. You don't need to connect them for AC'97 audio panel.
   E. To activate the front mic.
      For Windows® XP OS:
      Select "Mixer". Select "Recorder". Then click "FrontMic".
      For Windows® 7 / 7 64-bit / Vista™ / Vista™ 64-bit OS:
      Go to the "FrontMic" Tab in the Realtek Control panel. Adjust "Recording Volume".

3W Audio AMP Output Wafer Header
(4-pin SPEAKER2)
(see p.11, No. 37)



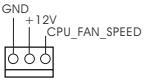
Please connect the chassis speaker to this header.

Chassis Fan Connector
(3-pin CHA_FAN1)
(see p.11, No. 10)



Please connect the fan cable to the fan connector and match the black wire to the ground pin.

CPU Fan Connectors
(3-pin CPU_FAN1)
(see p.11, No. 9)



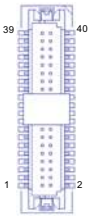
Please connect the CPU fan cable to the connector and match the black wire to the ground pin.

LVDS Panel Connector

(Optional)

(40-pin LVDS1)

(see p.11, No. 1)

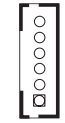


PIN	Signal Name	PIN	Signal Name
39	BL PWR	40	BL PWR
37	BL CTRL	38	BL PWR
35	GND	36	BL EN
33	LVDSB CLK-	34	LVDSB CLK+
31	LVDSB D3+	32	GND
29	DVLVDD_EN	30	LVDSB D3-
27	LVDSB D2-	28	LVDSB D2+
25	LVDSB D1+	26	GND
23	GND	24	LVDSB D1-
21	LVDSB D0-	22	LVDSB D0+
19	LVDSA CLK+	20	GND
17	GND	18	LVDSA CLK-
15	LVDSA D3-	16	LVDSA D3+
13	LVDSA D2+	14	GND
11	GND	12	LVDSA D2-
9	LVDSA D1-	10	LVDSA D1+
7	LVDSA D0+	8	GND
5	EDID DATA	6	LVDSA D0-
3	EDID PWR	4	EDID CLK
1	LCD PWR	2	LCD PWR

Inverter Power Control Wafer

(6-pin BLT_PWR3)

(see p.11, No. 4)



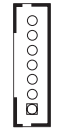
PIN	Signal Name
6	BL PWR
5	BL PWR
4	BL EN
3	BL CTRL
2	GND
1	GND

Backlight Control

(Optional)

(7-pin BLT_VOL1)

(see p.11, No. 39)

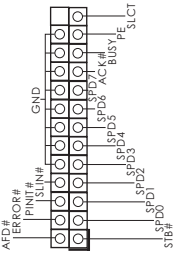


PIN	Signal Name
7	GND
6	GND
5	GPIO_BLT_DW
4	GPIO_BLT_UP
3	NC
2	GPIO_VOL_DW
1	GPIO_VOL_UP

Print Port Header

(25-pin LPT1)

(see p.11, No. 24)

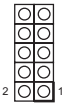


This is an interface for print port cables that allow convenient connection of printer devices.

Digital I/O Header

(10-pin JGPIO1)

(see p.11, No. 25)



PIN	Signal Name	PIN	Signal Name
10	GND	9	GPIO PWR
8	SIO_GP23	7	SIO_GP27
6	SIO_GP22	5	SIO_GP26
4	SIO_GP21	3	SIO_GP25
2	SIO_GP20	1	SIO_GP24

Serial Port Headers (RS232)

(10-pin COM3)

(see p.11, No. 26)

(10-pin COM4)

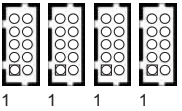
(see p.11, No. 27)

(10-pin COM5)

(see p.11, No. 28)

(10-pin COM6)

(see p.11, No. 29)



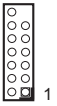
These COM headers support serial port modules.

PIN	Signal Name	PIN	Signal Name
9	RI#/+5V/+12V	10	NC
7	RTS#	8	CTS#
5	GND	6	DSR#
3	TXD	4	DTR#
1	DCD#	2	RXD

LPC Header

(13-pin LPC1)

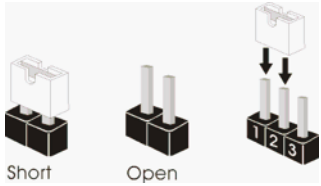
(see p.11, No. 31)



PIN	Signal Name	PIN	Signal Name
14	+3V	13	NC
12	+3V	11	+3V
10	GND	9	GND
8	LAD3	7	LAD2
6	LAD1	5	LAD0
4	LFRAME#	3	RESET#
2	GND	1	CLK

2.7 Jumpers Setup

The illustration shows how jumpers are setup. When the jumper cap is placed on pins, the jumper is “Short”. If no jumper cap is placed on pins, the jumper is “Open”. The illustration shows a 3-pin jumper whose pin1 and pin2 are “Short” when jumper cap is placed on these 2 pins.



Clear CMOS Jumper
(CLRCMOS1)
(see p.11, No. 33)

Default

Clear CMOS

CLRCMOS1 allows you to clear the data in CMOS. To clear and reset the system parameters to default setup, please turn off the computer and unplug the power cord from the power supply. After waiting for 15 seconds, use a jumper cap to short pin2 and pin3 on CLRCMOS1 for 5 seconds. However, please do not clear the CMOS right after you update the BIOS. If you need to clear the CMOS when you just finish updating the BIOS, you must boot up the system first, and then shut it down before you do the clear-CMOS action. Please be noted that the password, date, time, user default profile, 1394 GUID and MAC address will be cleared only if the CMOS battery is removed.

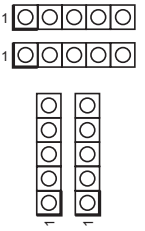
Backlight Power Selection
(3-pin BKT_PWR1)
(see p.11, No. 5)

1-2: +5V
2-3: +12V

Panel Power Selection
(3-pin PNL_PWR1)
(see p.11, No. 6)

1-2: +3V
2-3: +5V

COM Port Signal/Power Setting Jumpers
(5-pin SET_CM1)
(see p.11, No. 2)
(5-pin SET_CM2)
(see p.11, No. 3)
(5-pin SET_CM3)
(see p.11, No. 14)
(5-pin SET_CM4)
(see p.11, No. 15)

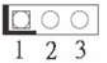


1-2: +12V
2-3: +5V
4-5: RI#

Digital I/O Power Setting
(3-pin JGPIO_PWR1)
(see p.11, No. 16)

1-2: +12V
2-3: +5V

ATX/AT Mode Jumper
(3-pin PWR_JP1)
(see p.11, No. 30)



1-2: AT Mode
2-3: ATX Mode

2.8 Operating System Setup

This motherboard supports Linux and various Microsoft® Windows® operating systems: 7 / 7 64-bit / Vista™ / Vista™ 64-bit / XP / XP 64-bit. Because motherboard settings and hardware options vary, use the setup procedures in this chapter for general reference only. Refer your OS documentation for more information.

RAID mode is not supported under Windows® XP / XP 64-bit.

2.8.1 Installing Windows® XP Without RAID

Using IDE Mode

STEP 1: Set Up UEFI.

Press <F2> or <Delete> at system POST. Set **IDE Mode** in UEFI Setup Utility > Advanced > Storage Configuration > SATA Mode.

STEP 2: Install Windows® XP on your system.

AHCI mode is not supported under Windows® XP.

2.8.2 Installing Windows® 7 / 7 64-bit / Vista™ / Vista™ 64-bit Without RAID

Using AHCI Mode

STEP 1: Set Up UEFI.

Press <F2> or <Delete> at system POST. Set **AHCI Mode** in UEFI Setup Utility > Advanced > Storage Configuration > SATA Mode.

STEP 2: Install Windows® 7 / 7 64-bit / Vista™ / Vista™ 64-bit on your system.

Using IDE Mode

STEP 1: Set Up UEFI.

Press <F2> or <Delete> at system POST. Set **IDE Mode** in UEFI Setup Utility > Advanced > Storage Configuration > SATA Mode.

STEP 2: Install Windows® 7 / 7 64-bit / Vista™ / Vista™ 64-bit on your system.

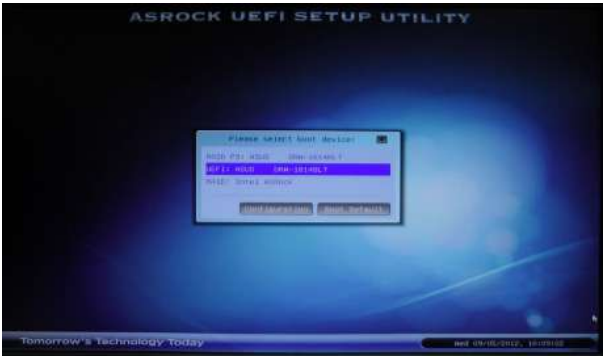
2.8.3 Installing Windows® 7 64-bit / Vista™ 64-bit on a HDD Larger than 2 terabytes (2TB) without RAID

This motherboard adopts UEFI BIOS that allows Windows® OS to be installed on a large size HDD (>2TB). Please make sure to use Windows® Vista™ 64-bit (with SP2 or above) or Windows® 7 64-bit and follow the procedures below to install the operating system.

Using AHCI Mode

STEP 1: Set Up UEFI.
Press <F2> or <Delete> at system POST. Set **AHCI Mode** in UEFI Setup Utility > Advanced > Storage Configuration > SATA Mode.

STEP 2: Press <F11> to launch boot menu at system POST and choose the item "UEFI:<Optical disk drive>" to boot.



STEP 3: Start Windows® installation.

2.8.4 Installing Windows® 7 / 7 64-bit / Vista™ / Vista™ 64-bit With RAID

STEP 1: Set Up UEFI.

Press <F2> or <Delete> at system POST. Set **RAID Mode** in UEFI Setup Utility > Advanced > Storage Configuration > SATA Mode.

STEP 2: Use "RAID Installation Guide" to set the RAID configuration.

Before you start to configure RAID, you need to check the installation guide in the Support CD for proper configuration. Please refer to the document in the Support CD, "Guide to SATA Hard Disks Installation and RAID Configuration", which is located in the folder at the following path:
.. \ RAID Installation Guide

STEP 3: Install Windows® 7 / 7 64-bit / Vista™ / Vista™ 64-bit on your system.

2.9 Driver Installation

The Support CD that comes with the motherboard contains necessary drivers and useful utilities that enhance the motherboard's features.

2.9.1 Running The Support CD

To begin using the support CD, insert the CD into your CD-ROM drive. The CD automatically displays the Main Menu if "AUTORUN" is enabled in your computer. If the Main Menu does not appear automatically, locate and double click on the file "ASRSETUP.EXE" in the Support CD to display the menu.

2.9.2 Drivers Menu

The drivers compatible to your system will be auto-detected and listed on the support CD driver page. Please follow the order from top to bottom to install those required drivers. Therefore, the drivers you install can work properly.

2.9.3 Utilities Menu

The Utilities Menu shows the application softwares that the motherboard supports. Click on a specific item then follow the installation wizard to install it.

2.9.4 Contact Information

If you need to contact ASRock or want to know more about ASRock, you're welcome to visit ASRock's website at http://www.asrock.com; or you may contact your dealer for further information.

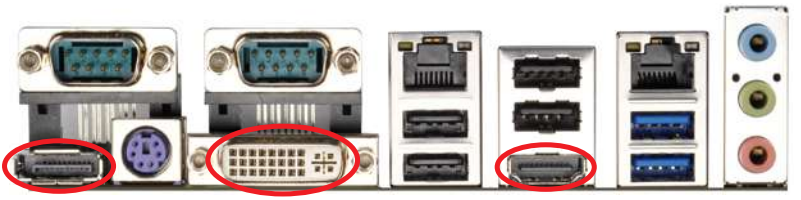
2.10 Dual Monitor

Dual Monitor

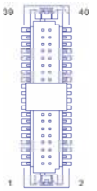
This motherboard supports dual monitor. With the internal VGA output support DisplayPort, DVI-I (D-Sub Port for IMB-170-V), HDMI and LVDS, you can enjoy dual monitor without installing any add-on VGA cards to this motherboard . This motherboard also provides independent display controllers for the DisplayPort, DVI-I, HDMI and LVDS to support dual VGA output so that the DisplayPort, DVI-I, HDMI and LVDS can drive same or different display contents.

To enable dual monitor, please follow the steps below:

1. Connect monitor cables to the respective ports on the I/O panel or motherboard.



DisplayPort **DVI-I port** **HDMI**



LVDS header

2. If you have installed the onboard VGA driver from our support CD to your system already, you can freely enjoy dual monitor after your system boots. If you haven't installed the onboard VGA driver yet, please install the onboard VGA driver from our support CD to your system and restart your computer.

1. DisplayPort, DVI-I, HDMI and LVDS monitors cannot all be enabled at the same time. You can only choose two of them.

2.11 Hot Plug and Hot Swap for Hard Disk Drives

This motherboard supports Hot Plug and Hot Swap for SATA / SATA2 / SATA3 in AHCI / RAID mode.

What is Hot Plug and Hot Swap?

If the SATA / SATA2 / SATA3 HDDs are NOT set for RAID, it is called “Hot Plug” for the action to insert and remove the SATA / SATA2 / SATA3 HDDs while the system is still powered on and in working condition. If the HDDs are set for RAID then it is called “Hot Swap”. However, please note that it cannot perform Hot Plug or Hot Swap if the OS has been installed into the SATA / SATA2 / SATA3 HDD.

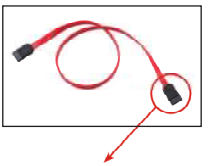
Hot Plug / Hot Swap Operation Guide

Please read the operation guide of Hot Plug / Hot Swap below carefully. Before you process Hot Plug / Hot Swap, please check the cable accessories from the motherboard gift box pack below.

A. 7-pin SATA data cable

B. SATA power cable with SATA 15-pin power connector interface

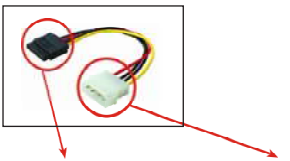
A. SATA data cable (Red)



SATA 7-pin connector

The SATA 15-pin power connector (Black) should be connected to your SATA3 HDD

B. SATA power cable



The 1x4-pin conventional power connector (White) should be connected to a power supply

Points for attention, before you process Hot Plug / Hot Swap:

1. Without the SATA 15-pin power connector interface, Hot Plug / Hot Swap cannot be processed.
2. Even though some HDDs provide both SATA 15-pin power connectors and IDE 1x4-pin conventional power connectors, IDE 1x4-pin conventional power connector's interface is definitely unable to support Hot Plug / Hot Swap and will cause the HDD damage and data loss.
3. The operation procedure below is designed only for our motherboard which supports Hot Plug / Hot Swap.
   * Hot Plug / Hot Swap might not be supported by the chipset because of its limitation. The support information of our motherboards are indicated in the product spec on our website: www.asrock.com
4. Make sure your HDDs can support Hot Plug / Hot Swap from your dealer or HDD user manual. HDDs that do not support Hot Plug / Hot Swap will be damaged.
5. Please make sure that the required SATA drivers are installed properly.

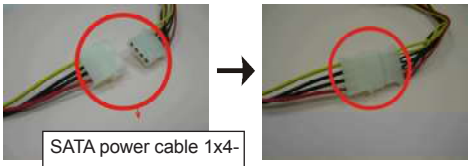
The latest SATA drivers are available on our support website: www.asrock.com

6. Make sure to use the SATA power cable & data cable from our motherboard package.
7. Please follow the instructions below step by step to reduce the risk of HDD crash or data loss.

How to Hot Plug / Hot Swap a HDD:

Please follow the instructions below to process Hot Plug / Hot Swap. Improper procedures will cause the HDD damage and data loss.

Step *1* Please connect the SATA power cable's 1x4-pin end (White) to the power supply's 1x4-pin cable.



SATA power cable 1x4-pin power connector (White)

Step *2* Connect the SATA data cable to the motherboard's SATA connector.

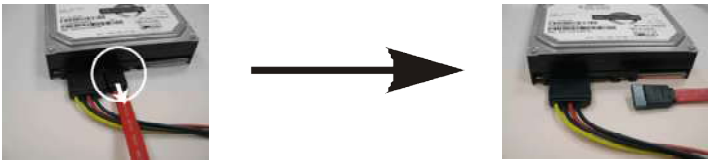
Step *3* Connect the SATA 15-pin power cable connector's (Black) end to the HDD.

Step *4* Connect the SATA data cable to the HDD.

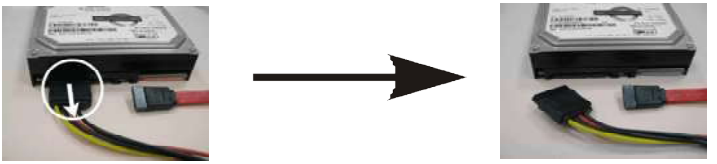
How to Hot Unplug / Hot Swap a HDD:

Please follow the instructions below to process Hot Unplug / Hot Swap. Improper procedures will cause the HDD damage and data loss.

Step ***1*** Unplug the SATA data cable from the HDD's side.



Step ***2*** Unplug the SATA 15-pin power cable connector (Black) from the HDD's side.



Chapter 3: UEFI SETUP UTILITY

3.1 Introduction

This section explains how to use the UEFI SETUP UTILITY to configure your system. The UEFI chip on the motherboard stores the UEFI SETUP UTILITY. You may run the UEFI SETUP UTILITY when you start up the computer. Please press <F2> or <Del> during the Power-On-Self-Test (POST) to enter the UEFI SETUP UTILITY, otherawise, POST will continue with its test routines.

If you wish to enter the UEFI SETUP UTILITY after POST, restart the system by pressing <Ctl> + <Alt> + <Delete>, or by pressing the reset button on the system chassis. You may also restart by turning the system off and then back on.

Because the UEFI software is constantly being updated, the following UEFI setup screens and descriptions are for reference purpose only, and they may not exactly match what you see on your screen.

3.1.1 UEFI Menu Bar

The top of the screen has a menu bar with the following selections:

Main	For setting system time/date information
OC Tweaker	For overclocking configurations
Advanced	For advanced system configurations
H/W Monitor	Displays current hardware status
Boot	For configuring boot settings and boot priority
Security	For security settings
Exit	Exit the current screen or the UEFI Setup Utility

3.1.2 Navigation Keys

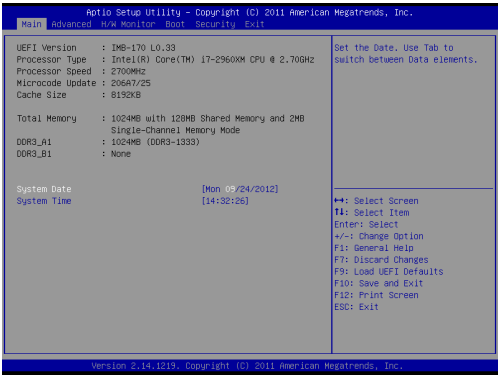
Use < ← > key or < → > key to choose among the selections on the menu bar, and use < ↑ > key or < ↓ > key to move the cursor up or down to select items, then press <Enter> to get into the sub screen. You can also use the mouse to click your required item.

Please check the following table for the descriptions of each navigation key.

Navigation Key(s)	Function Description
+ / -	To change option for the selected items
<Tab>	Switch to next function
<PGUP>	Go to the previous page
<PGDN>	Go to the next page
<HOME>	Go to the top of the screen
<END>	Go to the bottom of the screen
<F1>	To display the General Help Screen
<F7>	Discard changes and exit the SETUP UTILITY
<F9>	Load optimal default values for all the settings
<F10>	Save changes and exit the SETUP UTILITY
<F12>	Print screen
<ESC>	Jump to the Exit Screen or exit the current screen

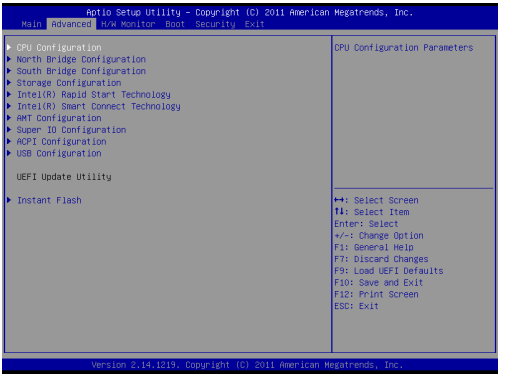
3.2 Main Screen

When you enter the UEFI SETUP UTILITY, the Main screen will appear and display the system overview.


Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
Main Advanced H/W Monitor Boot Security Exit
UEFI Version : IMB-170 L0.33
Processor Type : Intel(R) Core(TM) i7-2960XM CPU @ 2.70GHz
Processor Speed : 2700MHz
Microcode Update : 206A7/25
Cache Size : 8192KB
Total Memory : 1024MB with 128MB Shared Memory and 2MB Single-Channel Memory Mode
DDR3_A1 : 1024MB (DDR3-1333)
DDR3_B1 : None
System Date [Mon 05/24/2012]
System Time [14:32:26]
Set the Date. Use Tab to switch between Data elements.
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Option
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save and Exit
F12: Print Screen
ESC: Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

3.3 Advanced Screen

In this section, you may set the configurations for the following items: CPU Configuration, Nouth Bridge Configuration, South Bridge Configuration, Storage Configuration, Intel(R) Rapid Start Technology, Intel(R) Smart Connect Technology, AMT Configuration, Super IO Configuration, ACPI Configuration and USB Configuration.

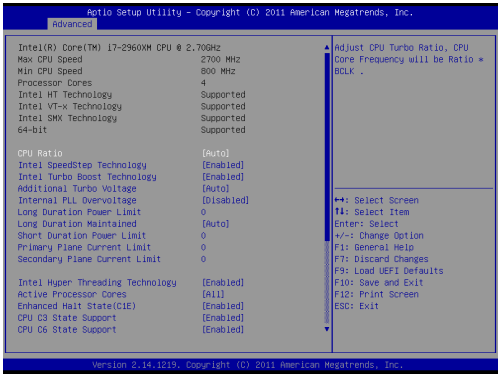


Setting wrong values in this section may cause the system to malfunction.

Instant Flash

Instant Flash is a UEFI flash utility embedded in Flash ROM. This convenient UEFI update tool allows you to update the system UEFI without entering operating systems such as MS-DOS or Windows® first. Just save the new UEFI file to your USB flash drive, floppy disk or hard drive and launch this tool, then you can update your UEFI in a few clicks without preparing an additional floppy diskette or other complicated flash utility. Please be noted that the USB flash drive or hard drive must use FAT32/16/12 file system. If you execute Instant Flash utility, the utility will show the UEFI files and their respective information. Select the proper UEFI file to update your UEFI, and reboot your system after the UEFI update process is completed.

3.3.1 CPU Configuration


Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
Advanced
Intel(R) Core(TM) i7-2960XM CPU @ 2.70GHz
Max CPU Speed 2700 MHz
Min CPU Speed 800 MHz
Processor Cores 4
Intel HT Technology Supported
Intel VT-x Technology Supported
Intel SMX Technology Supported
64-bit Supported
CPU Ratio [Auto]
Intel SpeedStep Technology [Enabled]
Intel Turbo Boost Technology [Enabled]
Additional Turbo Voltage [Auto]
Internal PLL Overvoltage [Disabled]
Long Duration Power Limit 0
Long Duration Maintained [Auto]
Short Duration Power Limit 0
Primary Plane Current Limit 0
Secondary Plane Current Limit 0
Intel Hyper Threading Technology [Enabled]
Active Processor Cores [All]
Enhanced Halt State(C1E) [Enabled]
CPU C3 State Support [Enabled]
CPU C6 State Support [Enabled]
Adjust CPU Turbo Ratio, CPU Core Frequency will be Ratio * BCLK .
↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Option
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save and Exit
F12: Print Screen
ESC: Exit
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CPU Ratio

Use this to change the ratio value of this motherboard.

Intel SpeedStep Technology

Intel SpeedStep technology is Intel's new power saving technology. Processors can switch between multiple frequencies and voltage points to enable power saving. The default value is [Enabled]. Configuration options: [Enabled] and [Disabled]. If you install Windows® Vista™ / 7 and want to enable this function, please set to [Enabled]. This item will be hidden if the current CPU does not support Intel SpeedStep technology.

Please note that enabling this function may reduce CPU voltage and lead to system stability or compatibility issues with some power supplies. Please set this item to [Disabled] if above issues occur.

Intel Turbo Boost Technology

Use this to enable or disable Intel Turbo Boost Mode Technology. Turbo Boost Mode allows processor cores to run faster than marked frequency in specific conditions. The default value is [Enabled].

Additional Turbo Voltage

Use this to add voltage when the CPU is in Turbo mode.

Internal PLL Overvoltage

Use this to enable/disable CPU Internal PLL Overvoltage.

Long Duration Power Limit

Use this to configure long duration power limit in watts.

Long Duration Maintained

Use this to configure the time window which the long duration power is maintained.

Short Duration Power Limit

Use this to configure short duration power limit in watts.

Primary Plane Current Limit

Use this to configure the maximum instantaneous current allowed for the primary plane.

Secondary Plane Current Limit

Use this to configure the maximum instantaneous current allowed for the secondary plane.

Intel Hyper Threading Technology

To enable this feature, a computer system with an Intel processor that supports Hyper-Threading technology and an operating system that includes optimization for this technology, such as Microsoft® Windows® XP / Vista™ / 7 is required. Set to [Enabled] if using Microsoft® Windows® XP, Vista™, 7, or Linux kernel version 2.4.18 or higher. This item will be hidden if the installed CPU does not support Hyper-Threading technology.

Active Processor Cores

Use this to select the number of cores to enable in each processor package. The default value is [All].

Enhanced Halt State (C1E)

All processors support Halt State (C1). The C1 state is supported through the native processor instructions HLT and MWAIT and requires no hardware support from the chipset. In C1 power state the processor maintains the context of the system caches.

CPU C3 State Support

Use this to enable or disable CPU C3 report to OS.

CPU C6 State Support

Use this to enable or disable CPU C6 report to OS.

Package C State Support

Configure options that will be programmed into C State package limit register. The default value is [Auto].

CPU Thermal Throttling

Use this to enable the CPU internal thermal control mechanism to keep the CPU from overheating. The default value is [Enabled].

No-Execute Memory Protection

No-Execution (NX) Memory Protection Technology is an enhancement to the IA-32 Intel Architecture. An IA-32 processor with "No Execute (NX) Memory Protection" can prevent data pages from being used by malicious software to execute codes. This option will be hidden if the current CPU does not support No-Excute Memory Protection.

Intel Virtualization Technology

When this option is set to [Enabled], a VMM (Virtual Machine Architecture) can utilize the additional hardware capabilities provided by Vanderpool Technology. This option will be hidden if the installed CPU does not support Intel Virtualization Technology.

Hardware Prefetcher

Use this turn on/off the MLC streamer prefetcher.

Adjacent Cache Line Prefetch

Use this to turn on/off prefetching of adjacent cache lines.

3.3.2 North Bridge Configuration

Primary Graphics Adapter

This allows you to select [Onboard] or [PCI Express] as the primary graphics adapter. The default value is [PCI Express].

VT-d

Use this to enable/disable Intel(R) Virtualization Technology for the Directed I/O.

PCIE1 Link Speed

This allows you to select PCIE1 Link Speed. The default value is [Auto].

Share Memory

This allows you to configure share memory. The default value is [Auto].

IGPU Multi-Moniter

This allows you to enable or disable IGPU Multi-Moniter. The default value is [Disabled]. If you wish to install a PCI Express card under Windows® XP / Vista™ OS, please disable this option.

Render Standby

Use this to enable or disable Render Standby by the Internal Graphics Device.The default value is [Enabled].

Primary IGFX Boot Display

Select the video device which will be activated during POST.

LCD Panel Type

Select the LCD panel used by the internal graphics device.

LCD Panel Resolution

Select the LCD panel resolution.

Backlight Control

Use this to configure Backlight Control settings.

Panel Color Depth

Select LFP Panel Color Depth.

Panel Backlight Brightness

Adjust Panel Backlight Brightness Level.

3.3.3 South Bridge Configuration

Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
Advanced
Onboard HD Audio [Auto]
Front Panel [Auto]
Onboard HDMI HD Audio [Enabled]
Onborad LAN 1 [Enabled]
Onborad LAN 2 [Enabled]
Restore on AC/Power Loss [Power Off]
Auto/Enable/Disable Onboard HD Audio.
↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Option
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save and Exit
F12: Print Screen
ESC: Exit
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Onboard HD Audio

Select [Auto], [Enabled] or [Disabled] for the onboard HD Audio feature. If you select [Auto], the onboard HD Audio will be disabled when a PCI Sound Card is plugged.

Front Panel

Select [Auto] or [Disabled] for the onboard HD Audio Front Panel.

Onboard HDMI HD Audio

This allows you to enable or disable the Onboard HDMI HD Audio.

Onboard LAN 1

This allows you to enable or disable the Onboard LAN 1.

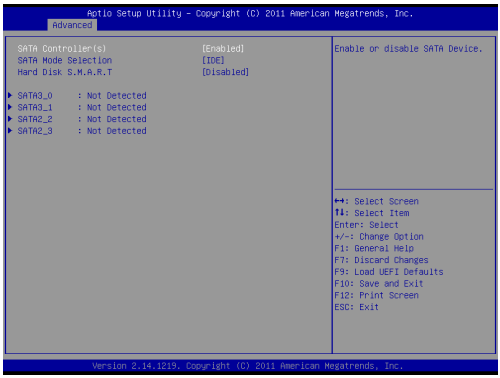
Onboard LAN 2

This allows you to enable or disable the Onboard LAN 2.

Restore on AC/Power Loss

This allows you to set the power state after an unexpected AC/power loss. If [Power Off] is selected, the AC/power remains off when the power recovers. If [Power On] is selected, the AC/power resumes and the system starts to boot up when the power recovers.

3.3.4 Storage Configuration



SATA Controller(s)

Use this to enable or disable the SATA Controllers.

SATA Mode Selection

Use this to select the SATA mode for SATA3_0, SATA3_1, SATA2_2 and SATA2_3 ports. Configuration options: [IDE Mode], [AHCI Mode] and [RAID Mode]. The default value is [IDE Mode].

AHCI (Advanced Host Controller Interface) supports NCQ and other new features that will improve SATA disk performance but IDE mode does not have these advantages.

Hard Disk S.M.A.R.T.

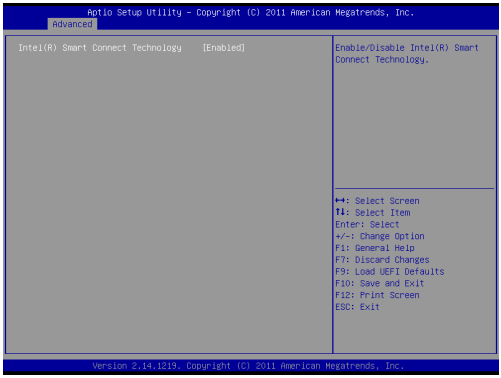
Use this to enable or disable S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology).

3.3.5 Intel(R) Rapid Start Technology

Intel(R) Rapid Start Technology

Use this to enable or disable Intel(R) Rapid Start Technology. Intel(R) Rapid Start Technology is a new zero power hibernation mode which allows users to resume in just 5-6 seconds. The default is [Disabled].

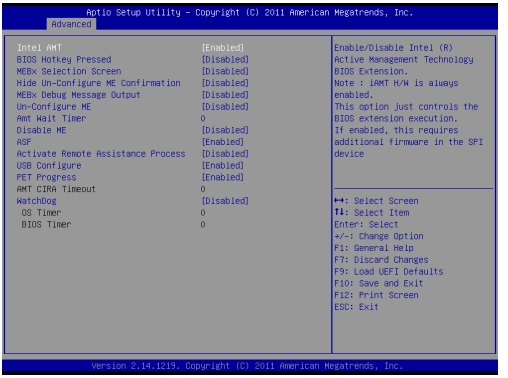
3.3.6 Intel(R) Smart Connect Technology



Intel(R) Smart Connect Technology

Use this to enable or disable Intel(R) Smart Connect Technology. Intel(R) Smart Connect Technology keeps your e-mail and social networks, such as Twitter, Facebook, etc. updated automatically while the computer is in sleep mode. The default is [Enabled].

3.3.7 AMT Configuration


Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
Advanced
Intel AMT [Enabled]
BIOS Hotkey Pressed [Disabled]
MEBx Selection Screen [Disabled]
Hide Un-Configure ME Confirmation [Disabled]
MEBx Debug Message Output [Disabled]
Un-Configure ME [Disabled]
Amt Wait Timer 0
Disable ME [Disabled]
ASF [Enabled]
Activate Remote Assistance Process [Disabled]
USB Configure [Enabled]
PET Progress [Enabled]
AMT CIRA Timeout 0
WatchDog [Disabled]
OS Timer 0
BIOS Timer 0
Enable/Disable Intel (R) Active Management Technology BIOS Extension.
Note : iAMT H/W is always enabled.
This option just controls the BIOS extension execution.
If enabled, this requires additional firmware in the SPI device
↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Option
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save and Exit
F12: Print Screen
ESC: Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

Intel AMT

Use this to enable or disable Intel(R) Active Management Technology.

BIOS Hotkey Pressed

Use this to enable or disable BIOS Hotkey Pressed.

MEBx Selection Screen

Use this to enable or disable MEBx selection screen.

Hide Un-Configure ME Configuration

Use this to hide Un-Configure ME without password confirmation prompt.

MEBx Debug Message Output

Use this to enable or disable MEBx debug message output.

Un-Configure ME

Use this to enable or disable Un-Configure ME without password.

AMT Wait Timer

Set timer to wait before sending ASF_GET_BOOT_OPTIONS.

Disable ME

Use this to set ME to Soft Temporary disabled.

ASF

Use this to enable or disable Alert Specification Format.

Activate Remote Assistance Process

Use this to enable or disable trigger CIRA boot.

USB Configure

Use this to enable or disable USB Configure.

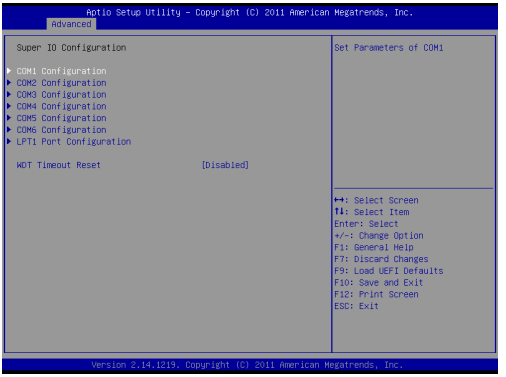
PET Progress

Use this to enable or disable PET Events progress to recieve PET events.

WatchDog

Use this to enable or disable WatchDog Timer.

3.3.8 Super IO Configuration



COM1 Configuration

Use this to set parameters of COM1. Select COM1 port type: [RS232], [RS422] or [RS485].

COM2 Configuration

Use this to set parameters of COM2. Select COM2 port type: [RS232], [RS422] or [RS485].

COM3 Configuration

Use this to set parameters of COM3.

COM4 Configuration

Use this to set parameters of COM4.

COM5 Configuration

Use this to set parameters of COM5.

COM6 Configuration

Use this to set parameters of COM6.

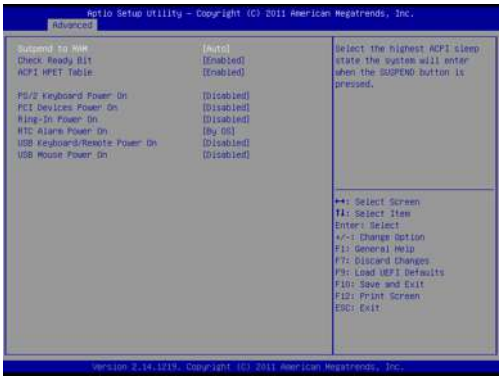
LPT1 Port Configuration

Use this set parameters of the onboard parallel port.

WDT Timeout Reset

This allows users to enable/disable the Watch Dog Timer timeout to reset system. The default value is [Disabled].

3.3.9 ACPI Configuration


Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
Advanced
Suspend to RAM [Auto]
Check Ready Bit [Enabled]
ACPI HPET Table [Enabled]
PS/2 Keyboard Power On [Disabled]
PCI Devices Power On [Disabled]
Ring-In Power On [Disabled]
RTC Alarm Power On [By OS]
USB Keyboard/Remote Power On [Disabled]
USB Mouse Power On [Disabled]
Select the highest ACPI sleep state the system will enter when the SUSPEND button is pressed.
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Option
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save and Exit
F12: Print Screen
ESC: Exit
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Suspend to RAM

Use this to select whether to auto-detect or disable Suspend-to-RAM. Select [Auto] to enable if the OS supports it.

Check Ready Bit

Use this to enable or disable Check Ready Bit.

ACPI HPET Table

Use this to enable or disable the ACPI HPET Table. The default value is [Enabled]. Please set this option to [Enabled] if you plan to use this motherboard to submit Windows® Vista™ certification.

PS/2 Keyboard Power On

Use this to enable or disable the PS/2 keyboard to turn on the system from power-soft-off mode.

PCI Devices Power On

Use this to enable or disable the PCI devices to turn on the system from power-soft-off mode.

Ring-In Power On

Use this to enable or disable the Ring-In signals to turn on the system from power-soft-off mode.

RTC Alarm Power On

Use this to enable or disable the RTC (Real Time Clock) to power on the system.

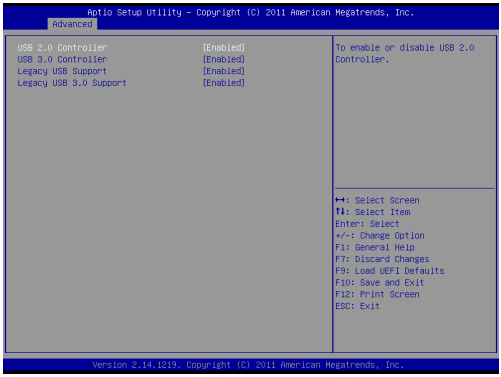
USB Keyboard/Remote Power On

Use this to enable or disable the USB Keyboard/Remote to power on the system.

USB Mouse Power On

Use this to enable or disable the USB Mouse to power on the system.

3.3.10 USB Configuration


Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
Advanced
USB 2.0 Controller [Enabled]
USB 3.0 Controller [Enabled]
Legacy USB Support [Enabled]
Legacy USB 3.0 Support [Enabled]
To enable or disable USB 2.0 Controller.
↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Option
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save and Exit
F12: Print Screen
ESC: Exit
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USB 2.0 Controller

Use this to enable or disable the USB 2.0 controller.

USB 3.0 Controller

Use this to enable or disable the USB 3.0 controller.

Legacy USB Support

Use this to select legacy support for USB devices. There are four configuration options: [Enabled], [Auto], [Disabled] and [UEFI Setup Only]. The default value is [Enabled]. Please refer to the descriptions below for details of these four options:

[Enabled] - Enables support for legacy USB.

[Auto] - Enables legacy support if USB devices are connected.

[Disabled] - USB devices are not allowed to be used under legacy OS and UEFI setup when [Disabled] is selected. If you have USB compatibility issues, it is recommended to select [Disabled] to enter OS.

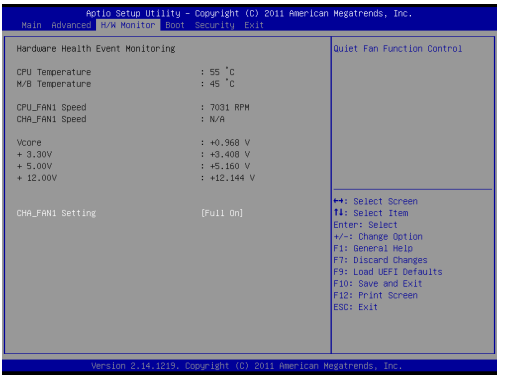
[UEFI Setup Only] - USB devices are allowed to be used only under UEFI setup and Windows / Linux OS.

Legacy USB 3.0 Support

Use this to enable or disable legacy support for USB 3.0 devices. The default value is [Enabled].

3.4 Hardware Health Event Monitoring Screen

In this section, it allows you to monitor the status of the hardware on your system, including the parameters of the CPU temperature, motherboard temperature, CPU fan speed, chassis fan speed, and the critical voltage.


Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
Main Advanced H/W Monitor Boot Security Exit
Hardware Health Event Monitoring
CPU Temperature : 55 °C
M/B Temperature : 45 °C
CPU_FAN1 Speed : 7031 RPM
CHA_FAN1 Speed : N/A
Vcore : +0.968 V
+ 3.30V : +3.408 V
+ 5.00V : +5.160 V
+ 12.00V : +12.144 V
CHA_FAN1 Setting [Full On]
Quiet Fan Function Control
↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Option
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save and Exit
F12: Print Screen
ESC: Exit
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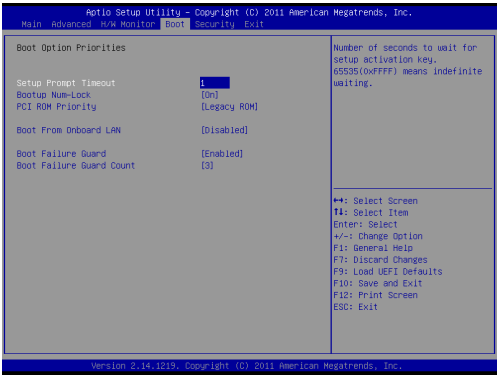
CHA_FAN1 Setting

This allows you to set the chassis fan 1 speed. The default value is [Full On].

3.5 Boot Screen

In this section, it will display the available devices on your system for you to configure the boot settings and the boot priority.



Setup Prompt Timeout

This shows the number of seconds to wait for the setup activation key. 65535(0xFFFF) means indefinite waiting.

Bootup Num-Lock

If this is set to [On], it will automatically activate the Numeric Lock after boot-up.

PCI ROM Priority

Use this to adjust PCI ROM Priority. The default value is [Legacy ROM].

Boot From Onboard LAN

Use this to enable or disable Boot From Onboard LAN.

Boot Failure Guard

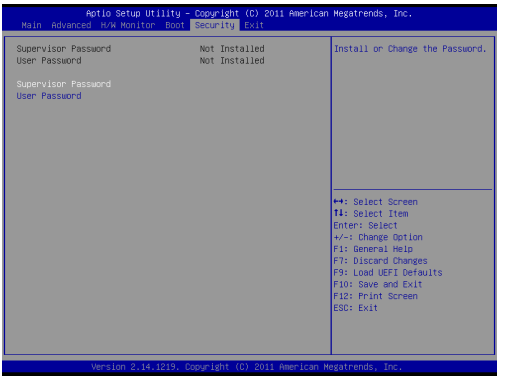
Enable or disable Boot Failure Guard.

Boot Failure Guard Count

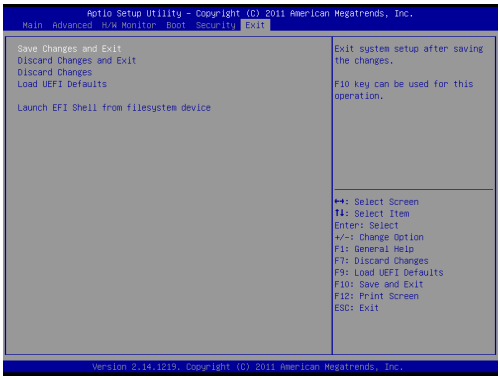
Enable or disable Boot Failure Guard Count.

3.6 Security Screen

In this section, you may set or change the supervisor/user password for the system. You may also clear the user password.


Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
Main Advanced H/W Monitor Boot Security Exit
Supervisor Password Not Installed
User Password Not Installed
Supervisor Password
User Password
Install or Change the Password.
↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Option
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save and Exit
F12: Print Screen
ESC: Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

3.7 Exit Screen


Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
Main Advanced H/W Monitor Boot Security Exit
Save Changes and Exit
Discard Changes and Exit
Discard Changes
Load UEFI Defaults
Launch EFI Shell from filesystem device
Exit system setup after saving the changes.
F10 key can be used for this operation.
↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Option
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save and Exit
F12: Print Screen
ESC: Exit
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Save Changes and Exit

When you select this option, the following message, “Save configuration changes and exit setup?” will pop out. Select [OK] to save changes and exit the UEFI SETUP UTILITY.

Discard Changes and Exit

When you select this option, the following message, “Discard changes and exit setup?” will pop out. Select [OK] to exit the UEFI SETUP UTILITY without saving any changes.

Discard Changes

When you select this option, the following message, “Discard changes?” will pop out. Select [OK] to discard all changes.

Load UEFI Defaults

Load UEFI default values for all options. The F9 key can be used for this operation.

Launch EFI Shell from filesystem device

Attempt to Launch EFI Shell application (Shell64.efi) from one of the available filesystem devices.